

Doc. Ref. No	GAM221/EO
Rev. Date	03/01/2024
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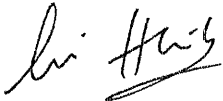

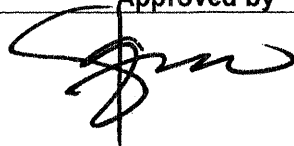
**LEONARDO S.p.A AW139
ENGINEERING ORDER**

**FABRICATION OF GROUND SUPPORT
EQUIPMENT AND SPECIAL TOOLS**

IMPORTANT NOTE

Preparation of this document is referred to GAM.P23 General Engineering Request.

Approval Signature

Prepared by	Verified by	Approved by
		
ILMI HAIKAL BIN MOHD YUSOFF Design Engineer 03/01/2024	Ir. NIZAM NAZAR Design Engineer Verification 03/01/2024	ISMAIL SULAIMAN Senior Design Engineer 03/01/2024

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RECORD OF REVISIONS

Rev.	Affected Page(s)	Date	Descriptions of Revision	Prepared by	Verified by	Approved by
0	All	07/11/2023	Initial Issue	IHMY	MAMM	INN

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TITLE: FABRICATION OF GROUND SUPPORT EQUIPMENT AND SPECIAL TOOLS

1. PLANNING INFORMATION

A. Effectivity

Model	Register Number	Serial Number
LEONARDO S.p.A AW139	9M-BOC	31289
	9M-BOD	31291
	9M-PMA	31807
	9M-PMB	31726
	9M-PMD	31809
	9M-PME	31855
	9M-PMF	31913
	9M-JPM	31899
	9M-SAAS	31903
	9M-YTL	41358

B. Classification

Not applicable.

C. Reason

This instruction is developed as part of fabrication procedures for AW139 Ground Support Equipment and Special Tools.

D. Description

This Engineering Order details the fabrication procedure of ground support equipment and special tools.

E. Compliance

Not applicable.

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F. Approval

Not applicable.

G. Manpower

At fabricator's initiative.

H. Special Tooling

At fabricator's initiative.

I. Weight and Balance

Not applicable.

J. Electrical Load Data

Not applicable.

K. References

The following documents were used as reference for this Engineering Order.

1. Metallics Materials Properties Development Standardizations (MMPDS).
2. Types Certificate Data Sheet (TCDS) AW139 – General.

L. Publications Affected

Not Applicable

M. Software Accomplishment Summary

Not Applicable

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2. ACCOMPLISHMENT INSTRUCTIONS

A. Preparation

Not Applicable

B. Accomplishment

B.1. Mechanical Installation

B.1.1. Fabrication of Ground Support Equipment and Special Tools.

1. Fabricate Ground Support Equipment and Special Tools as per Table 1 below.
2. Load Test is not required for this fabrication.

NO	DESCRIPTION	DRAWING NUMBER	GAM LOCAL PART NUMBER	EQUIVALENT OEM PART NUMBER
1	DECK SERVICING PLATFORM TAIL	ED063001	ED063001	-
2	DECK SERVICING PLATFORM RH	ED064001	ED064001	RMGE3G-103A
3	DECK SERVICING PLATFORM LH	ED065001	ED065001	RMGE3G-102A
4	TAIL ROTOR PLATFORM	ED063001	ED063001	-
5	RH PLATFORM	ED064001	ED064001	RMGE3G-103A
6	LH PLATFORM	ED065001	ED065001	RMGE3G-102A
7	TROLLEY MAIN ROTOR HEAD	ED058001	ED058001	3G6005G00131
8	TROLLEY ENGINE SUPPORT	ED145001	ED145001	3G710G00132
9	MAINTENANCE PLATFORM	ED300001	ED300001	-
10	SERVICING TABLE	ED301001	ED301001	-

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NO	DESCRIPTION	DRAWING NUMBER	GAM LOCAL PART NUMBER	EQUIVALENT OEM PART NUMBER
11	SERVO PRESSURE SWITCH	ED221001	87223-85GAM	87223-85
12	TOOL KIT SPECIAL WRENCH c/w BOX	ED221002	3327GAM	3327
13	SPANNER WRENCH	ED221003	STI 3111	STI 3111
14	SOCKET 7/16"	ED221004	STI 3108	STI 3108
15	SOCKET 3/4"	ED221005	STI 3335	STI 3335
16	GUIDE TUBE	ED221006	ED221006	PW42200E
17	ADAPTOR SOCKET WRENCH (MLG)	ED221007	3G3205G00151GAM	3G3205G00151
18	TGB/IGB FITTING INSTL (C/W BOX)	ED221008	3G5305G12331GAM	3G5305G12331
19	M/R SCISSOR RETAINING NUT WRENCH	ED221009	3G6205G26631GAM	3G6205G26631
20	FIRE EXTINGUISHING CHECK TEE TESTER	ED221010	ED221010	-
21	TGB CENTER SEAL REMOVAL/INSTL KIT	ED221022	ED221022	-
22	JACK SCREW	ED221033	3G6005G00431GAM	3G6005G00431
23	M/R DAMPER HUB SIDE	ED221036	3G6005G01531GAM	3G6005G01531
24	BOOSTER PUMP CRATRIDGE REMOVAL TOOL	ED221040	3G2805G00131GAM	3G2805G00131
25	TOOLKIT, T/R BUSHING REPLACEMENT	ED221041	3G6405G08632GAM	3G6405G08632
26	TOOLKIT, T/R BUSHING REPLACEMENT	ED221044	3G6405G08632GAM	3G6405G08632

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NO	DESCRIPTION	DRAWING NUMBER	GAM LOCAL PART NUMBER	EQUIVALENT OEM PART NUMBER
27	WRENCH. M/R SCISSORS RETAINING NUT REMOVAL/INSTALLATION	ED221047	3G6205G26631GAM	3G6205G26631
28	M/R PITCH ADJUSTMENT TOOL	ED221051	3G6205G00432GAM	3G6205G00432
29	HYDRAULIC SERVICE OIL HOSE	ED221052	ED221052	AP-AIR120-2
30	LANDING GEAR BLOCKING SYSTEM C/W BOX	ED221053	ED221053	3G0705G00411
31	MGB ANTI TORQUE BEAM INSTALLATION PIN	ED221054	3G6305G26631GAM	3G6305G26631
32	M.R DAMPER REMOVE & INSTALL	ED221056	3G62205G05951GAM	3G62205G05951

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B.2. Electrical Installation

Not applicable.

B.3. Ground Check

1. Perform General Visual Inspection (GVI) on all fabricated items. No defects are allowed.

B.4. System Check

Not applicable.

B.5. Final Installation Instruction

Not applicable.

C. Operating and Maintenance Instructions

C.1. Operating Instructions

Not applicable.

C.2. Maintenance Instructions

Not applicable.

3. MATERIAL INFORMATION

A. New / Retained Parts

Not applicable.


B. Replacement Parts


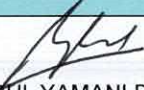
Not applicable.

C. Re-identified Parts


Not applicable.

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PART A			
Description of tool	GUIDE TUBE	Tool Part No. (OEM)	PW42200E
Document reference	PRATT & WHITNEY ETP PT6C-67C/-67C1	Aircraft type	AW139
Signature	: 		
Name	: JASMALIZAM JAMALUDIN		
Designation	: ENGINEERING CONTROLLER		
Date	: 1 / 11 / 2023		

PART B			
Drawing No.	ED221006	Assigned Part No.	ED221006
Engineering Order No.	GAM221/EO		
Signature	: 		
Name	: MUHAMMAD SHAFIQ BIN ABDUL SHUKOR		
Designation	: DESIGN ENGINEER		
Date	: 6 / 11 / 2023		
Verification			
Signature	: 		
Name	: SYAFRUL YAMANI BIN SAFRUDDIN		
Designation	: ENGINEERING MANAGER		
Date	: 1 / 12 / 2023		

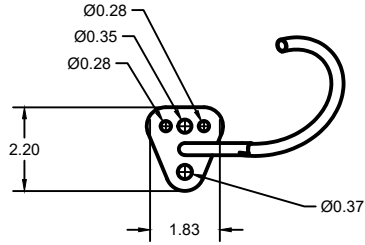
PART C			
Evaluation			
Section 1			
	Original/ OEM Tool	Equivalent Tool	Remarks
Part No. and Model	N/A	N/A	N/A
Technical Specification:			
i. N/A	N/A	N/A	N/A
ii. N/A	N/A	N/A	N/A
iii. N/A	N/A	N/A	N/A
Section 2			
Condition of Tool:	Satisfactory	Unsatisfactory	Remarks
i. Technical Specification	/		
ii. Dimension	/		
iii. Physical appearance	/		
iv. Paintwork	/		
v. Surface treatment	/		
vi. Function/Operation	/		
vii. Safety feature	/		
viii. Attachment & fitting	/		
Requirement for load test	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Requirement for calibration	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

PART D	
Declaration	
I hereby verify that:	
<input checked="" type="checkbox"/> The Alternative Tool and Test Equipment has been assessed and found to be equivalent to that specified in the Maintenance Data/ Drawing.	
<input type="checkbox"/> The Alternative Tool and Test Equipment has been assessed and found to be incompatible for use in accordance with specifications in the Maintenance Data/ Drawing.	
Signature	: 
Name	: MUHAMMAD SHAFIQ BIN ABDUL SHUKOR
Designation	: DESIGN ENGINEER
Date	: 6/12/2023

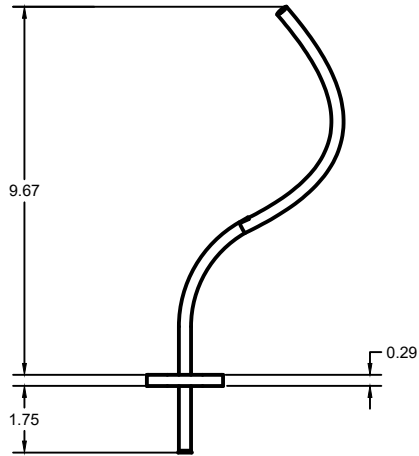
REV	DESCRIPTION	DATE
0	INITIAL REVISION	17/03/2023

NOTE :

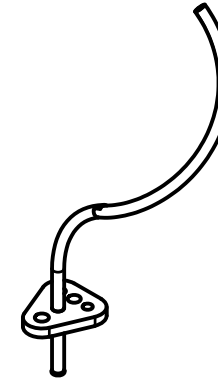
1. MACHINING ALL OVER IN ACCORDANCE WITH ISO 14649-201:2011
2. REMOVE ALL SHARP EDGES AND BURRS



-001
TOP VIEW



-001
SIDE VIEW





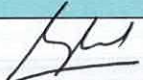
-001
ISO VIEW

1	ED221006-001	1	GUIDE TUBE	STAINLESS STEEL	-	-
ITEM	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATIONS	REMARKS


BILL OF MATERIALS

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				<p>APPROVED: MUHAMMAD SAUFI ASFIAMMAYUS</p>	<p>DATE: 17/03/2023</p>

PART A			
Description of tool	BOOSTER PUMP CARTRIDGE REMOVAL TOOL	Tool Part No. (OEM)	3G2805G00131
Document reference	AW139 IETP 39-A-GH-01-00-00A-066A-A	Aircraft type	AW139
Signature			
Name	: JASMALIZAM JAMALUDIN		
Designation	: ENGINEERING CONTROLLER		
Date	: 2 / 11 / 2023		

PART B			
Drawing No.	ED221040	Assigned Part No.	3G2805G00131GAM
Engineering Order No.	GAM221/EO		
Signature			
Name	: MUHAMMAD SHAFIQ BIN ABDUL SHUKOR		
Designation	: DESIGN ENGINEER		
Date	: 6 / 11 / 2023		
Verification			
Signature			
Name	: SYAFROL YAMANI BIN SAFRUDDIN		
Designation	: ENGINEERING MANAGER		
Date	: 1 / 12 / 2023		

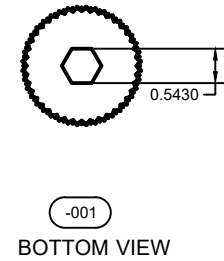
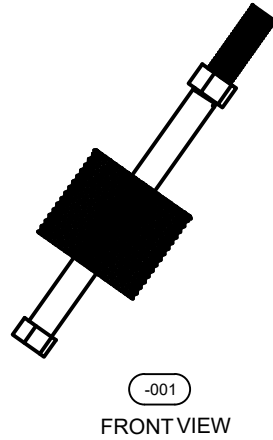
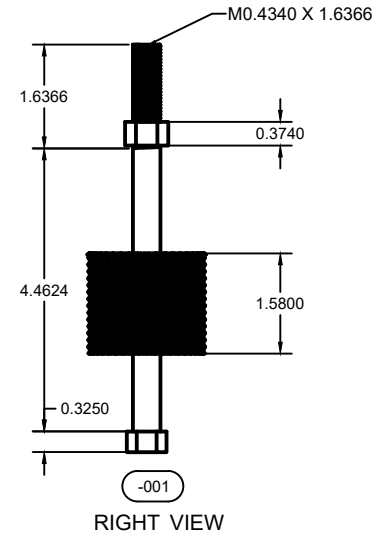
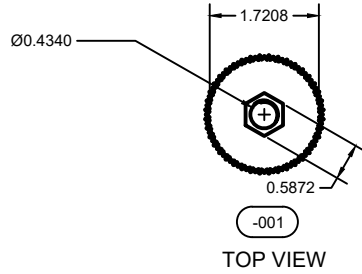
PART C			
Evaluation			
Section 1			
	Original/ OEM Tool	Equivalent Tool	Remarks
Part No. and Model	N/A	N/A	N/A
Technical Specification:			
i. N/A	N/A	N/A	N/A
ii. N/A	N/A	N/A	N/A
iii. N/A	N/A	N/A	N/A
Section 2			
Condition of Tool:	Satisfactory	Unsatisfactory	Remarks
i. Technical Specification	/		
ii. Dimension	/		
iii. Physical appearance	/		
iv. Paintwork	/		
v. Surface treatment	/		
vi. Function/Operation	/		
vii. Safety feature	/		
viii. Attachment & fitting	/		
Requirement for load test	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Requirement for calibration	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	

PART D	
Declaration	
I hereby verify that:	
<input checked="" type="checkbox"/> The Alternative Tool and Test Equipment has been assessed and found to be equivalent to that specified in the Maintenance Data/ Drawing.	
<input type="checkbox"/> The Alternative Tool and Test Equipment has been assessed and found to be incompatible for use in accordance with specifications in the Maintenance Data/ Drawing.	
Signature	: 
Name	: MUHAMMAD SHAFIQ BIN ABDUL SHUKOR
Designation	: DESIGN ENGINEER
Date	: 6/12/2023

REV	DESCRIPTION	DATE
0	INITIAL REVISION	17/3/2023

NOTE :

1. MACHINING ALL OVER IN ACCORDANCE WITH ISO 14649-201:2011
2. REMOVE ALL SHARP EDGES AND BURRS
3. APPLY KNURLING IN ACCORDANCE WITH ISO 13444:2012(EN) OR EQUIVALENT.
4. THE SPECIAL TOOLS DRAWING ARE MADE REFERENCE WITH ITEM PART NUMBER 3G2805G00131GAM.



1	ED221040-001	1	BOOSTER PUMP CRATRIDGE REMOVAL TOOL	STAINLESS STEEL	-	-
ITEM	PART NUMBER	QTY	DESCRIPTION	MATERIAL	SPECIFICATIONS	REMARKS

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			<p>APPROVED: <i>[Signature]</i></p>	<p>DRAWING NO.: ED221040</p>	<p>AIRCRAFT TYPE: AW139</p>